



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

B

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/728,956	12/08/2003	Norikazu Niimi	118002	9053
25944	7590	03/14/2006		
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320				EXAMINER MAI, NGOCLAN THI
				ART UNIT 1742
				PAPER NUMBER

DATE MAILED: 03/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/728,956	NIIMI, NORIKAZU
	Examiner Ngoclan T. Mai	Art Unit 1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on 12/12/05.
- 2a) This action is **FINAL**.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 1-10 and 15-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1,2,15 and 16 is/are rejected.
- 7) Claim(s) 3-10 and 17-24 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_.

Art Unit: 1742

1. Applicant's arguments with respect to claims 1-2 and 15-16 have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2 and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP06107456 in view of Aitken (U.S. Patent No. 4,940,678)

JP06107456 disclosed a method comprising calcining a powder mixture of  $\text{Al}_2\text{O}_3$  and  $\text{Y}_2\text{O}_3$ , pulverizing the calcined mixed powder, molding the pulverized mixed powder and heating the molded product in nitrogen atmosphere to form Y-Al-garnet sintered body.

The difference between the claim and the reference is that the reference does not teach introducing aluminum nitride to the yttrium-aluminum garnet and heating.

Aitken et al teach adding nitrogen to glass of rare earth metal oxide-  $\text{Al}_2\text{O}_3\text{-SiO}_2$  system to improve the density, viscosity, hardness and dielectric constant of the base material, see col. 1, l. 6-12, col. 2, l. 3-14. Aitken et al teach nitrogen source can be AlN or Si<sub>3</sub>N<sub>4</sub> with AlN being preferred for greater ease of melting composition of high  $\text{Al}_2\text{O}_3$  contents, col. 3, l. 27-31. Thus it would have been obvious to of ordinary skill in the art at the time the invention was made to either add AlN to the powder mixture before calcining the mixture  $\text{Al}_2\text{O}_3$  and  $\text{Y}_2\text{O}_3$ , or after the mixture is calcined and pulverized taught by the JP06107456 to form yttrium-aluminum garnet sintered body having the noted improvement.

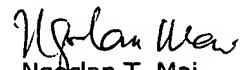
Art Unit: 1742

4. Claims 3-10, 17-24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ngoclan T. Mai whose telephone number is (571) 272-1246. The examiner can normally be reached on 9:30-6:00 PM Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Ngoclan T. Mai  
Primary Examiner  
Art Unit 1742

n.m.